USER MANUAL DVA SOFTWARE

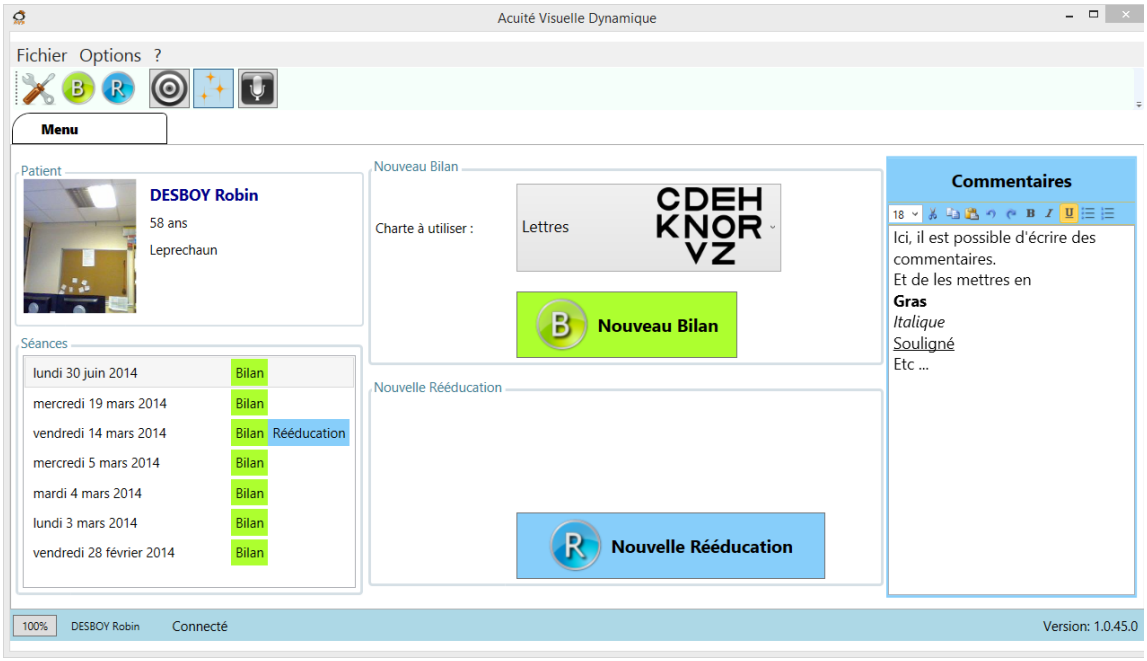

FIGURE 1: MAIN WINDOW

Version 9

Applies to DVA 1.0.45 and higher

This document explains the features and utilization of the DVA software developed by FRAMIRAL.

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OVERVIEW

For years, our company has been developing its own software to control the various medical devices we design (Multitest Equilibre, VVS, Framiscope…).

Always innovating and listening to the need of the medical profession, Framiral is now offering this new product: the DVA, a tool that will help you to establish a diagnostic, but also rehabilitate your patients.

This product is made of:

- The FRAMAVD helmet, equipped with sensors, and adjustable to the patient's head thanks to its flexible structure.
- The DVA Software, through FramiGest (patients 'management software), to establish a check-up of your patient, and rehabilitate.

I. INSTALLATION AND CONFIGURATION

1. Installation

Check that FramiGest is already installed on your computer.

Check that the DVA helmet is disconnected.

Click on the « setup.exe » file provided, and follow the installation instructions. This setup will also install the drivers for the DVA helmet.

You can now plug the DVA helmet in.

2. Configuration

a) License key

To manage the license key, go to the «?» menu and choose the "License" menu. This will open a window that will allow you to manage the license key that will unlock the software for a limited time. This key is delivered by Framiral when our team is installing the software, or when requested.

If you are connected to internet, you can request a key by clicking the « Make a request » button. Then, either Framiral will send you your key by email or you can « Check if a key is available » to automatically get it (this might take a few days).

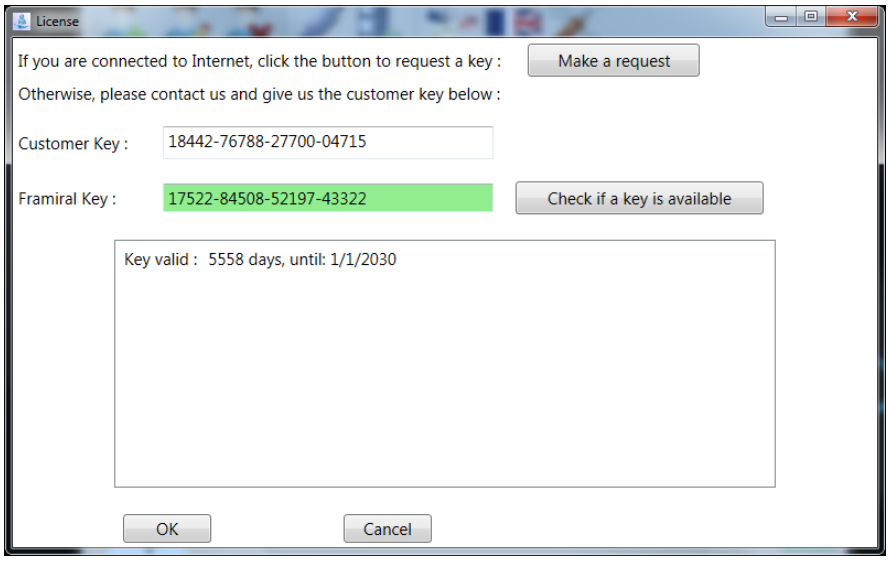


FIGURE 2: LICENSE

b) Sensor model

The DVA helmet is available in two models: Wired or Wireless. You need to specify in the software which one is used. Via « Options » and « Paramètres », click on the « Capteur » tab.

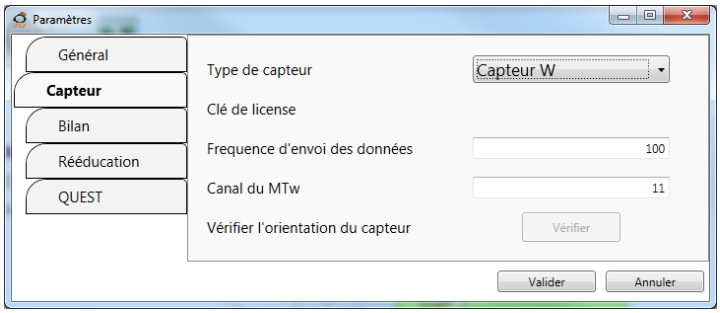


FIGURE 3: SENSOR MODEL

Select, in the drop box, "Capteur W" for a wireless version, or "Capteur I" for the wired version. You do not need to change the other settings. Restart the software to apply the changes. Once restarted, if the helmet is wired, the software should display « Connecté » in the status bar (bottom left). For a wireless helmet version, if the « dongle » is correctly connected, and the status displayed is « Pas de capteur sans fil détecté », you just need to rotate the helmet 180° to activate it. The status should update to « Connecté ». If you cannot connect it, check that the battery is not low (recharge the helmet).

c) Other configuration

There are a few actions to take when using the software for the first time.

- Calibration: (this window should open automatically the first time, otherwise you can go to the "Option" menu and select "Calibrate"). Follow instructions and click "Validate".

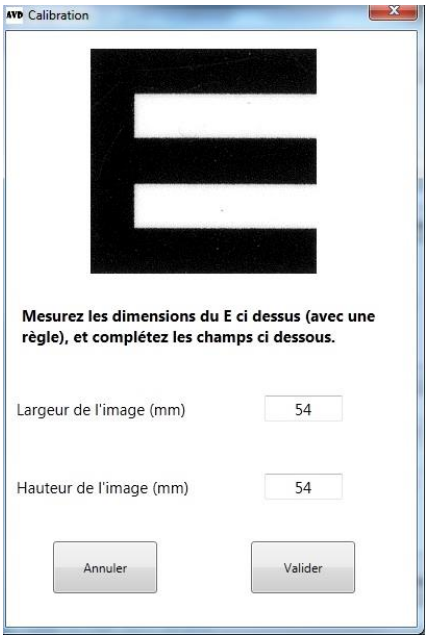


FIGURE 4: CALIBRATION

- In the main window, the connection status to the FRAMAVD helmet is specified on the bottom left.

- If the status is « Connected », you are ready to use the software.
- If the status is « Disconnected », try to close the software, disconnect the helmet, plug it back in after 10 seconds, and open the software again.
- If you still cannot make the connection, contact us.

II] UTILIZATION

1. Creating, opening and closing a session

In the DVA software, your diagnosis and rehabilitation exercises are stored in sessions. Each session is associated with a day, so you should find one session for every day your patient came for a DVA test.

Each exercise (diagnosis or rehabilitation) is automatically saved.

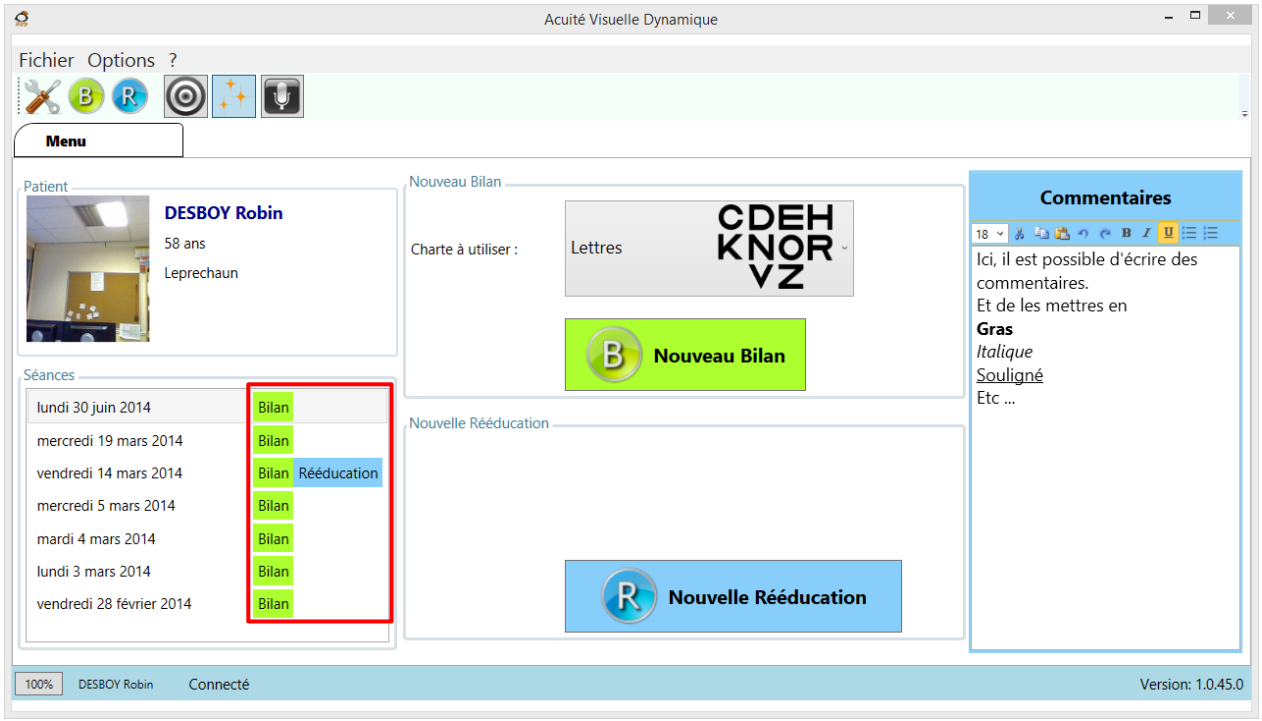


FIGURE 5: MAIN WINDOW

On the list of the saved sessions:

- Double click to open a previous session.
- « Check-up » over green background will appear for every session containing a check-up exercise. Rehabilitation over blue background (see red frame).
- The « DEL » key from your keyboard will delete the selected session.

Session are automatically saved when closing a tab or closing the software.

If you have any problem about saving or opening a previous session, click on the "?" menu, "Send a bug report", and we will contact you as soon as possible.

2. Check-up

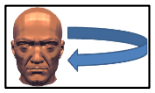
a) Create a new check-up exercise

First of all, you can select the chart you would like to use for the exercise: Letters, Drawings (for kids), Landolt C or Snellen E (Letters are recommended). To start a new check-up exercise, click on "New Check-up".

A check-up is made of a series of exercises, static and dynamic.

In this new tab, you can modify several parameters:

- Distance between the patient and the screen (mm): you have to specify the distance between the patient's eyes and the monitor. You shouldn't put a number below the minimum advised distance. If the minimum distance is absurd, be sure that the screen calibration has been done correctly (I.2.b). You can also work on a better screen (better resolution), and avoid projectors and big TVs.
- Minimum speed and range: You can set the speed range for your dynamic tests (default 150-250 °/s).

You can click on the  to change the head vizualisation.

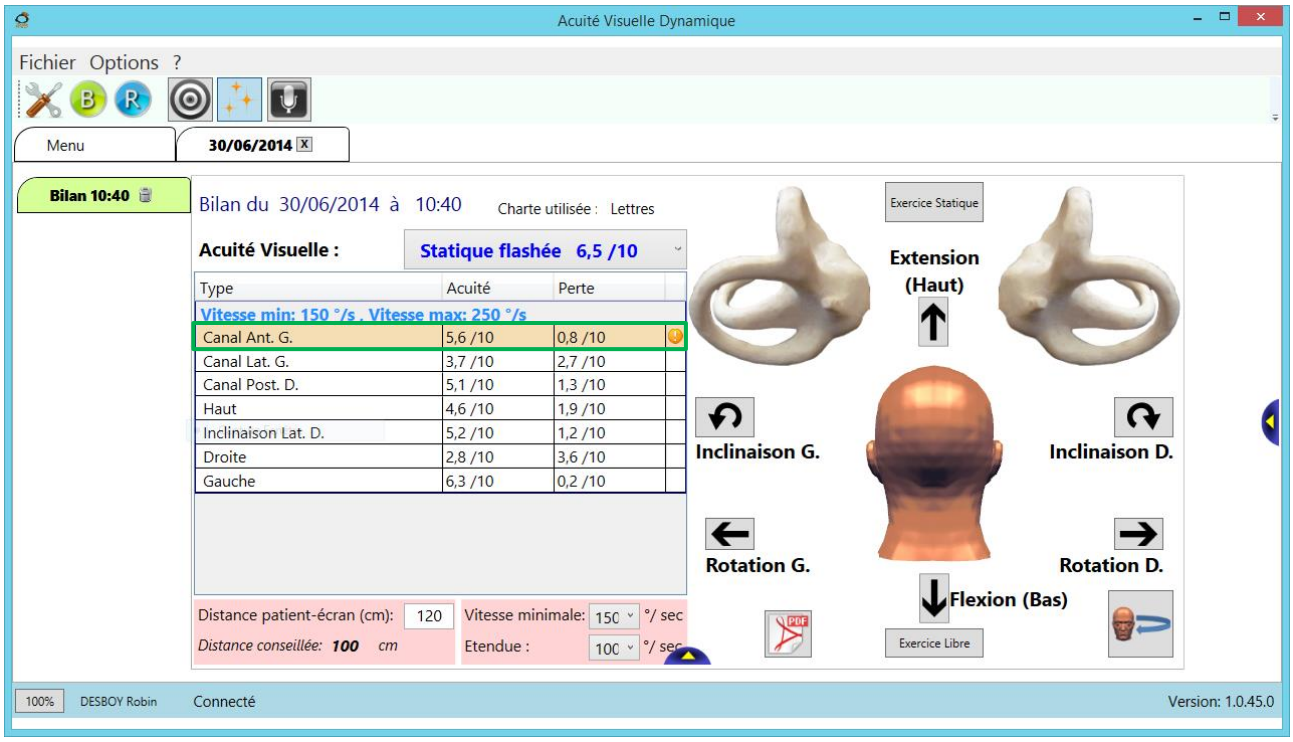


FIGURE 6: CHECK-UP WINDOW

b) Start exercises

To start an exercise, you can click on « New Static Exercise », or on a specific canal, or on an arrow button for physiologic direction.

For example, to test the Right Anterior Canal, mouse hover over the canal to observe the required head movement, and click on it to start the test.

FIGURE 7: START AN EXERCISE

An exercise is a series of letters displayed with a specific size.

While an exercise is going on, you can display the Help board by pressing "H" on your keyboard.

Aide

Commande	Action
Clic gauche ou flèche vers la gauche	Vrai
Clic droit ou flèche vers la droite	Faux
Touche P	Passer l'optotype (sans valider)
Barre d'espace	Faire apparaître le cercle de l'optotype
Echap	Annuler l'exercice
Molette vers le haut	Voir la réponse
Touche I	Afficher/cacher le compteur
Touche S	Activer/désactiver les sons
Touche H	Afficher/cacher l'aide

FIGURE 8: HELP

An exercise has an unspecified number of letters, depending on the patient's answers.

The exercise stops automatically when the last letter is displayed. It means that you have to answer every letter until you come back to the check-up tab.

You can stop an ongoing exercise by pressing "Enter" on your keyboard. If you do so, this test will appear in the list in a different color, with an exclamation mark, to remind you that it hasn't been completely done. (See Figure 6, green frame).

During dynamic exercise, you can control the patient's head speed with the speedometer. Your goal being to stay as long as you can in the green area (correct speed range).

c) Results

The results provided by the software are:

- A list of the dynamic tests with the acuity, and the loss compare to the referential static exercise (the one you select in the dropdown box). You can delete a dynamic test from the list by selecting the test and pressing "DEL".
- 3 graphs to visualize the loss in every canal/direction. You can display those graphs by clicking on the yellow arrow at the bottom.

By clicking on the PDF button, you can build a 1 page result PDF file, containing the graphs, the values, and your comments.

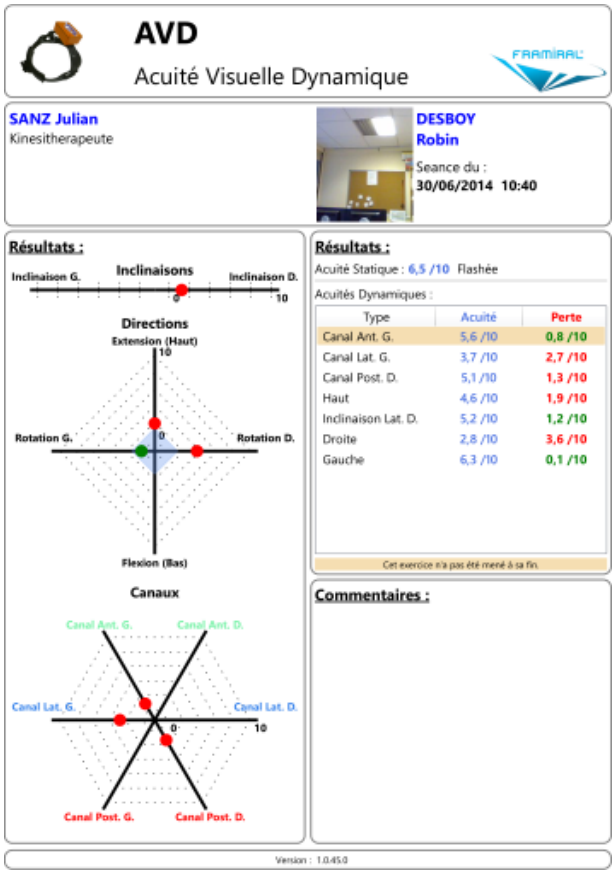


FIGURE 9: PDF FILE

3. Rehabilitation

To start a rehabilitation session, you can click on the “Rehabilitation” button from the main window, or via the shortcut bar on the top (blue button).

The rehabilitation exercises work the same way as the check-up’s:

- There is no comparison between static and dynamic.
- There are more charts available: full alphabet, numbers (0 – 99), words (2-10 letters)… You can select the chart to use directly in the rehabilitation tab.
- The score is a percentage, so you can check your patient’s evolution.
- You can change the difficulty with the slider at the top (1 for easy – 10 for hard).
- Every time the patient needs to display more than once a letter (or other), the score will be lower.
- If the patient make the letter (or other) appear 6 times, the answer will automatically be considered as “wrong”.

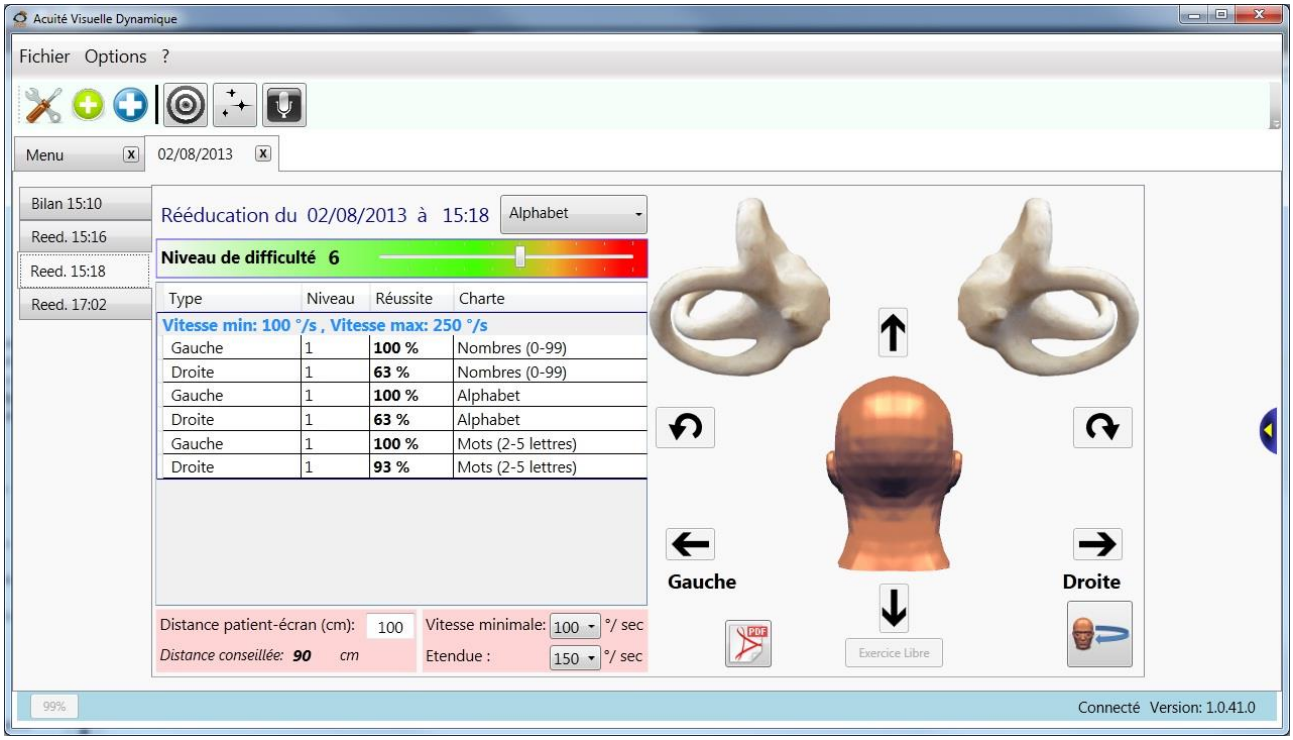


FIGURE 10: REHABILITATION

It is also possible to print a PDF file containing the results of the rehabilitation exercises done.

FIGURE 11: REHABILITATION PDF FILE

For rehabilitation exercises you can also activate the microphone option, so you don't need a mouse anymore to validate your answers. To do so, connect a microphone to your computer, configure it via windows, and activate it in the AVD main window via the microphone button.

FIGURE 12: MICROPHONE BUTTON

When activated (green), start a rehabilitation test and give your answer in the microphone (this option doesn't work with "alphabet" chart).

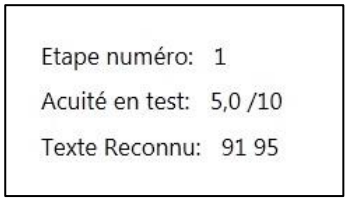


FIGURE 13: MICROPHONE DISPLAY

You can check the microphone identification at the bottom left of rehabilitation test.

The text identified by the microphone is displayed on the left (Figure 13: Microphone display 91), and the percentage of recognition is displayed beside it (Figure 13: Microphone display 95)

After the patient's answer, the chart item is displayed for two seconds, before continuing to the next item automatically.

Exception: the patient has to speak loudly into the microphone, and say the word corresponding to what is displayed on the screen. For the "alphabet" chart, due to software limitations, the patient has to say the word "letter" before the letter. For example, if "A" is displayed, the patient has to pronounce "Letter A".

4. Detect a simulating patient

If you suspect a patient to simulate a loss of dynamic visual acuity, you can use the "Deep Test" by clicking on the target icon in the tool bar (the icon is then colored).

WARNING: remember to disabled this mode when you don't want to use it. This mode will affect all the results of the tests you are doing while activated.

This option will modify the letter display time period, so the chart item will be displayed for 300 ms after the patient's head movement. This will run dynamic exercises almost like static exercises. A patient with normal DVA loss should do better. A simulating patient will not improve its score.

FIGURE 14: DEEP MODE DISABLED

FIGURE 15: DEEP MODE ENABLED

5. Other

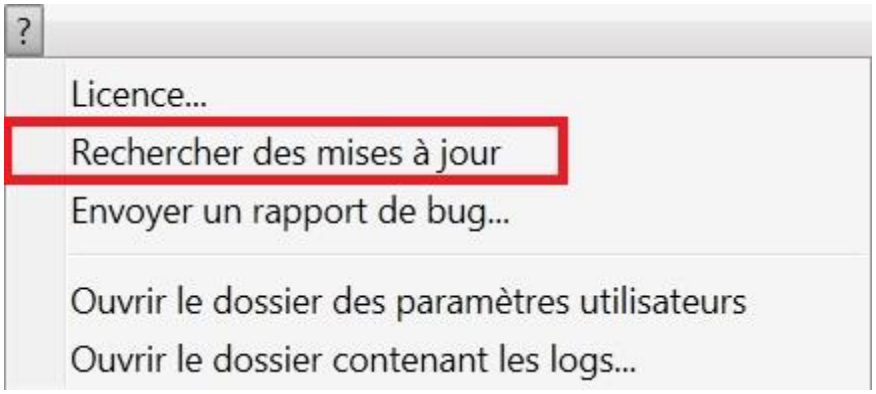
To send us a bug report, go to the « ? » menu and click on « Send a bug report ».

FIGURE 16: BUG REPORT

III. AUTOMATIC UPDATE

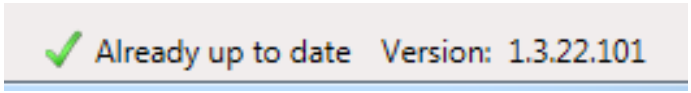
1. Check for update

You can find this menu on the welcoming window. It helps you to update the software automatically as soon as a new version is available.

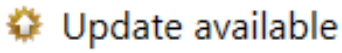


Then, the updating status is showing at the bottom of the window.

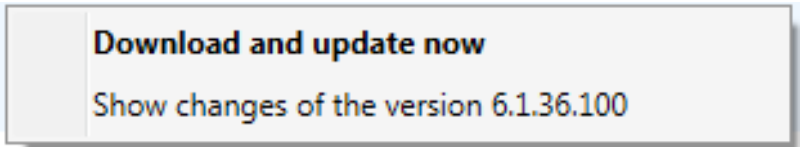
Case 1: The software is up to date



Case 2: Updates are available

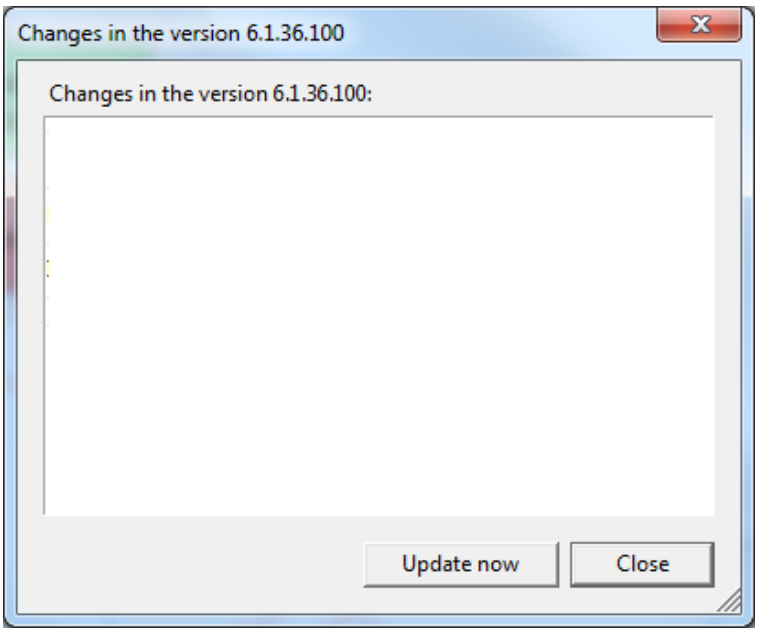


Click on the status to reveal the following options:



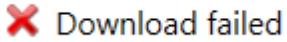
« **Download and update now** » will download and automatically install the new version of the software. Once you select this option, let run the automatic update process, and don't click on anything else until it's done!

« Show changes of the version XX.XX.XX » will open a new window explaining all the changes made between your version and the XX.XX.XX one.



You just have to click on the "Update Now" button to start the automatic update process!

Case 3: Update checking failed



If there is a problem while checking for update, here are possible case scenarios:

- You are not connected to the internet. (you can start a browser to check your internet access)
- You have internet access, but a strong firewall policy prevents any software to access to internet.

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